# A NEW ALOE FROM RHODESIA[†]

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Whilst botanising in the Belingwe District of Rhodesia, early in 1965, Mr. E. J. Bullock found some Aloes which appeared to be different from any known to occur in Rhodesia; plants were first seen only on inaccessible, more or less vertical rock faces near Mnene Mission, but were not at that time in flower. Later that year, when the writer accompanied Mr. Bullock to the locality, flowering was over, but the fruiting racemes (seen only through field glasses) obviously belonged in the Section *Anguialoe* Reynolds. As plants in this section were quite unknown in Rhodesia it was decided to make a determined attempt in the following year, to obtain flowering material; in the meantime a few seedling plants were found and placed in cultivation at Bulawayo and Nelspruit,

During the Easter holidays, 1966, an attempt was made to obtain a flowering sized plant, but it was abandoned as being too risky; our rope was too short to reach the base of the cliff and the man power available would have been unable to haul the climber back if anything had gone awry. However, in July, Mr. Bullock and the writer were again in the area, this time with the added objective of collecting material of a Cycad, this accomplished we turned our attention once more to the obtaining of flowering material of our Aloe.

On the road to Belingwe all apparently suitable granite hills were scanned with the field glasses, as we were sure that the species would occur elsewhere in the area. Eventually what appeared to be similar plants were spotted on a bald granite mountain, rising some 600′ above the surrounding country. After an easy climb we reached the undulating plateau to find, to our joy, literally thousands of the new species, with many in flower. Photographs were taken and herbarium material prepared, enabling the following description to be drawn up.

**Aloe tauri** Leach, sp. nov.

*A. sessiliflorae* Pole Evans affinis sed planta minore plerumque acaulescenti, saepe habitu frutescenti humilo; foliis brevioribus proportione latioribus, recurvioribus, hieme atrocupreis, dentibus marginalibus grandioribus et distantioribus dispositis; pedunculo saepe longiore sed graciliore, non valde sulcato, quam racemo plerumque 2—3-plo longiore; racemo breviore, floribus aliquantum longioribus et nectare aqueo differt.

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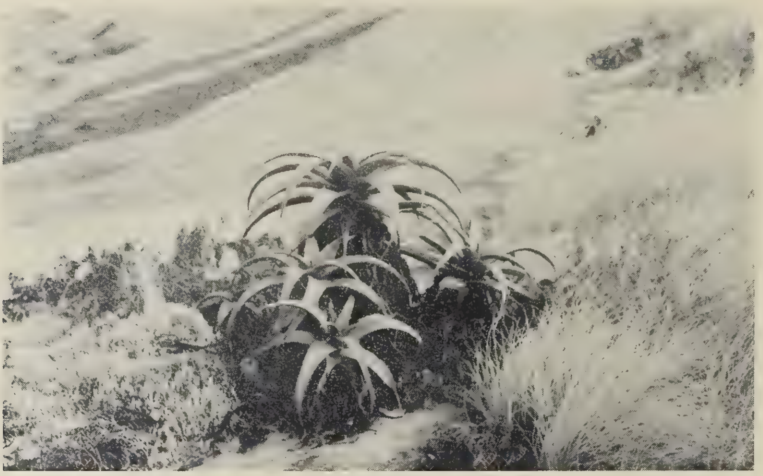
[†] Accepted for publication 10th April, 1968.

Mr. E. J. Bullock examining plants of *A. tauri*, at the type locality, near the summit of "Igar".



Shortly caulescent plant at the type locality, shewing beginning of clump formation.

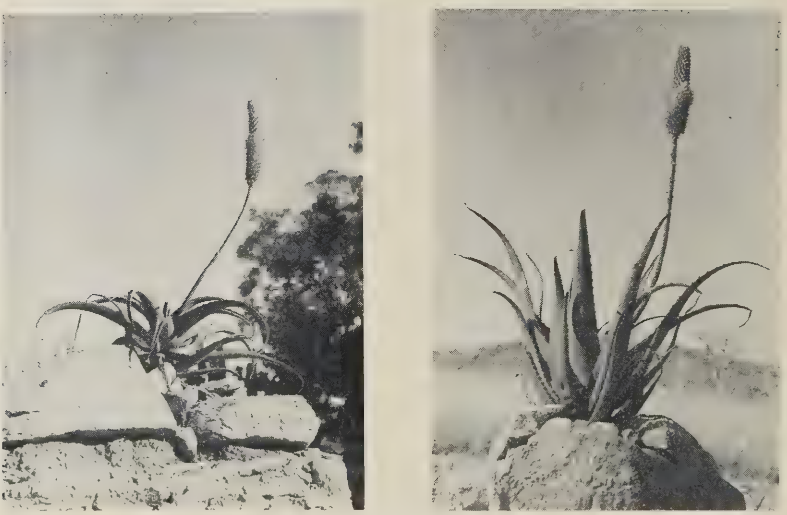
Plate 1. *Aloe taurii* Leach.

*Planta* solitaria vel in catervis grandibus caespitosa, acaulescens vel caule brevi plerumque procumbenti, 5—7 cm diam., propagulis e basi vel ex parte procumbenti, raro erecto, infrequenter altiore quam 30 cm. *Folia* c. 25, dense rosulata, anguste ovato-attenuata, 34—55 cm longa, basi 6—8 cm lata, patulo-recurva vel valde recurva, supra saturato-flavoviridia, margines versus rubiginosa, hieme mox uniformiter cupreo-rubra, basi plana vel leviter concava, superne canaliculata, subtus convexa; *margines* ferruginei, dentibus ferrugineis pungentibus uncinatis saepe apicibus atro-brunneis, 2—3 mm longis, 6—15 mm distantibus armati. *Inflorescentia* ad 1 m alta, simplex vel perrariter ramulo unico; *pedunculus* ascendens, teres, atropurpureo-brunneus, satis glabrus, perleviter sulcatus, ad 60 cm longus, proportione gracilis, basi plano-convexus, marginibus lateralibus acutangularibus, ad 1·5 cm latus, deinde teres c. 1 cm diam.; *bracteis* sterilibus numerosis, ovato-acuminatis vel ovato-acutis, 3—5 nervatis, c. 12 mm longis, 6—7 mm latis vestitus. *Racemus* cylindricus, plerumque c. 20 cm longus, 5—6 cm diam. dense sessiliflorus aureus, floribus nectare aqueo semi-impletis. *Bracteae* scariosae, nervis brunneis 3—5, ovato-acuminatae, 10—12 mm longae, 7 mm latae. *Pedicelli* nulli. *Perianthium* campanulatum, 15—18 mm longum, basi 4—5 mm diam., ad orem 9—15 mm diam.; *segmenta exteriora* ad basem libera candido-translucentia, intra versus apicem flavescentia; nervis 3, viridulis vel viridi-flavis, apicem versus confluentibus; *segmenta interiora* latiora, obtusiora, nervis 3, incrassatis in carinam 3-costatum formatis. *Filamenta* aureola recta; *antherae* armeniacae, deinceps 7—10 mm exsertae. *Ovarium* brunnescens oblongo-ellipsoideum, c. 5 mm × 3 mm. *Stylus* basi brunnescens, versus apicem flavescens, *stigma* demum 10—13 mm exserto. *Capsula* oblongo-ellipsoidea basi aliquantum truncata, sessilis, floris induviis ad basem firme affixis, brunnea haud viridula, ad 15 mm longa, 7·5 mm diam. *Semina* irregulariter triquetra, angulis margine membranaceo instructis, fuliginea minutissime lenticulari-pusticulata.

Type: *Leach & Bullock* 13321 (BM; G; K; LISC; PRE; SRGH, holotype).

Rhodesia. S: Belingwe Distr., prope Mnene Mission, cult. Bulawayo, fl. vii. 1966, *Bullock* 52—5 (BM;SRGH), ibid, cult. Nelspruit, fl. vii. 1966, *Leach & Bullock* 12872 (K; PRE); "Igar", Mweza Ra., c. 29° 49′ E, 21° 01′ S, fl. 11. vii. 1966, *Leach & Bullock* 13321 (BM; G; K; LISC; PRE; SRGH). Nuanetsi Distr., Matibi Res., "M'shunga Nibure", fl. 24. vi. 1967, *Cannell* 34 (SRGH), ibid., fl. 1. vii. 1967, *Leach & Cannell* 13797 (K; PRE; ZSS).

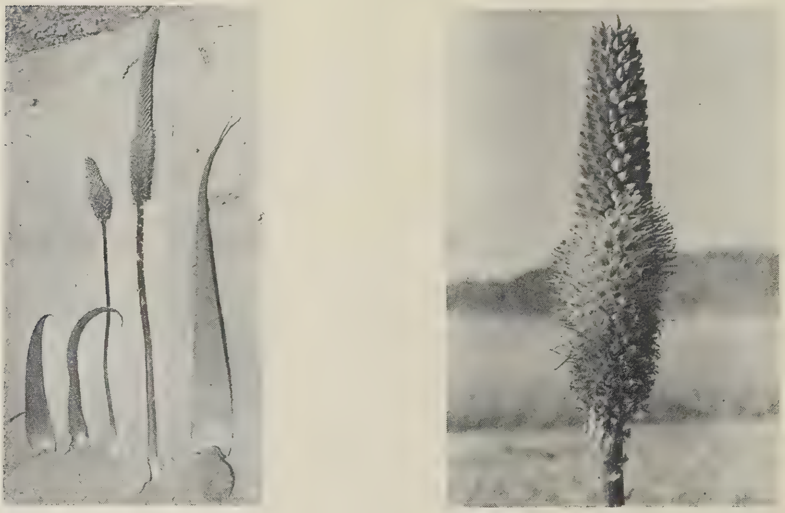
The specific epithet is in honour of the discoverer of the new species, Mr. E. J. Bullock of Bulawayo, Rhodesia. Mr. Bullock is a keen student of the genus *Aloe* as it occurs in Rhodesia and has made a number of contributions to our knowledge of the species and their distribution in Rhodesia.



Plants from Mnene Mission.

Cult. Bulawayo. Ht. ± 1 m.

Cult. Nelspruit. Ht. ± 1 m.



*A. tauri — A. sessiliflora,*
A comparison.

Raceme of above plant, ± 20 cm long.

PLATE 2. *Aloe tauri* Leach.

The type locality of our new species: Igar Mountain, 3972′, lies at the south-western end of the Mweza Range, about 30 miles east of West Nicholson. From about 3500′ *A. tauri* becomes the dominant species; at the lower limit it is associated with masses of *Euphorbia griseola* Pax. Plants are plentiful on all aspects, in dense masses amongst tussock grasses in shallow humus-filled hollows or hanging on almost vertical rock faces. It seems amazing that these plants in their thousands should have escaped notice for so long in a country as relatively well collected as Rhodesia.

Field glasses enabled us to see what appeared to be another colony on a nearby hill, although identification is not certain. It is thought to be probable that the species will be found to occur at other points more or less along the hills stretching to the east, towards Triangle and Chiredzi. A further colony has already been found by Mr. I. C. Cannell on "M'shunga Neburi" (God's needle) in the Matibi Reserve, some 60 miles to the east of Mt. Igar, here it is associated with *A. aculeata* Pole Evans and *A. chabaudii* Schonl. as well as with *E. griseola*. Mr. N. Bey also reports what appears to be a natural hybrid with *A. aculeata* from the same locality; he has also found, in the vicinity, plants which are almost certainly, although sterile, identifiable as *A. cameronii* Hemsl.; if confirmed, this will considerably extend the known distribution of this latter species.

*Aloe tauri* belongs in Section *Anguialoe* Reynolds, and is the sixth species in this section, which was set up in 1940 to accommodate this most distinctive and closely related group, of which the type is the widespread *A. sessiliflora*.

The new species fits into Reynold's keys as follows:

"Aloes of South Africa": 428 (1950).

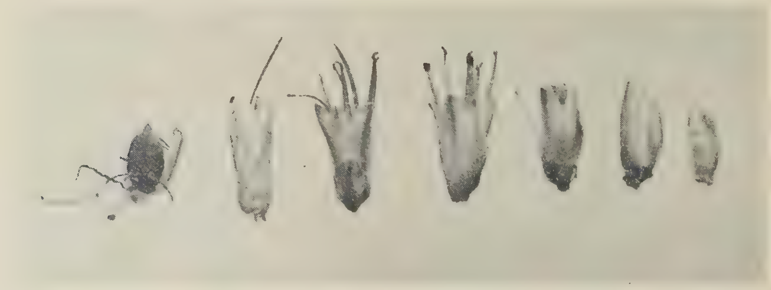
Section 5: *Anguialoe* Reynolds
  A. Flowers sessile
    (1) Stem short, procumbent
      (*a*) *Leaves* spreading, glaucous green. *Perianth* 18—20 mm, rose coloured with dark brown nectar . . . . . *A. vryheidensis*
      (*b*) *Leaves* recurved, dark yellowish green, coppery red in winter, *Perianth* 15—18 mm, yellow with crystal clear nectar. *A. tauri*

"Aloes of Tropical Africa and Madagascar": 241 (1966).

Group 15
  A. *Racemes* (15) 30—50 cm long, erect
    (1) *Leaves* arcuate-incurved, *Perianths* cylindric-ventricose, orange, 36 mm long . . . . . . . . . . . . . . . . *A. aculeata*
    (2) *Leaves* spreading. *Perianth* red, up to 40 mm long, cylindric-ventricose . . . . . . . . . . . . . . . . *A. rubroviolacea*

(3) *Leaves* recurved. *Perianth* yellow, up to 18 mm long,
campanulate . . . . . . . . . . . . . . . . . *A. tauri*

The new addition is the smallest in the section and is characterised by its simple inflorescence of short, densely flowered, cylindric racemes of bright yellow flowers, borne erect on slender ascending peduncles which are 2—3 times as long as the racemes. In size of flowers and length of raceme it is nearest to *A. vryheidensis* Groenewald, but in leaf characters and in many other respects it is entirely different. It seems that the nearest relationship is with *A. sessiliflora*, from which it differs in being a much smaller, usually acaulescent, clump-forming plant with proportionately broader more recurved leaves with larger more widely spaced marginal teeth. However, the most striking difference lies in the previously mentioned peduncle—raceme proportions. In *A. sessiliflora* these are, on average, about equal in length, whereas in *A. tauri* the short racemes are only one third to half the length of the slender, lightly sulcate peduncles. The flowers of the new species are sligthly longer and tend to be more open than those of its closest relative, and appear to be of a much brighter hue, this latter, is due, in part no doubt, to the absolutely clear nectar which half fills the flowers; *A. tauri* is the only species in the section with this crystal-clear nectar, that of *A. alooides* (Bolus) Van Druten, alone approaching it in its pellucid quality.



*Aloe tauri:* flowers 1/1.

Some of the differing characteristics are tabulated below:

| | *A. tauri* | *A. sessiliflora* |
|---|---|---|
| Peduncle length | **52·3** (48—60) | **46·6** (32—57) |
| Raceme length | **21·7** (15—30) | **45·6** (38—50) |
| Ratio Peduncle/Raceme | **2·5** (1·95—3·5) | **1·05** (0·68—1·35) |

| | | |
|---|---|---|
| Perianth length | **15—18** mm | **14—15** mm |
| Leaf dimensions | **41** × **7** (34—55 × 6—8) | **71** × **9·5** (59—84 × 7·5 × 10·5) |
| Ratio Leaf length/width | **5·9** (5—6·9) | **7·5** (6—9·4) |

All measurements in cm (except perianth); averages (in heavy type) to nearest decimal point; maxima and minima in brackets. Compiled from measurements taken from natural populations on Igar Mtn., Rhodesia, and Nelspruit, Transvaal, respectively.

*Plant* solitary or forming large clumps, acaulescent or with a short, usually procumbent stem, 5—7 cm diam., with offsets from the base or along the procumbent portion, seldom erect and only occasionally more than 30 cm high. *Leaves* about 25, densely rosulate, narrowly ovate-attenuate, 34—55 cm long, 6—8 cm broad at the base, spreading to spreading-recurved (often strongly recurved) only very occasionally nearly straight (apparently when in particularly moist situations); *upper surface* dark yellow-green, dull red towards the margins, becoming a uniform coppery red at the onset of winter, flat or slightly concave towards the base, becoming canaliculate towards the apex; *lower surface* rounded, green becoming red; *margins* pinkish brown, armed with similarly coloured (often dark brown tipped) pungent, hooked teeth, 2—3 mm long, 6—8 mm apart low down with rounded interspaces, becoming more widely spaced, 8—15 mm, with straight interspaces above. *Sap* dries yellow. *Inflorescence* simple or very rarely 1-branched, usually only one from a rosette (occasionally two), up to c. 1 m high; *peduncle* ascending, up to 60 cm long, rather slender, terete, c. 1 cm diam. above, somewhat flattened on the inner face below, up to 1·5 cm wide with hard acute lateral margins, quite glabrous, very lightly longitudinally sulcate, dark purplish brown (dark green on portions in heavy shade); *sterile bracts* numerous, scarious, brownish cream, ovate-acuminate or ovate-acute, 3—5 nerved, c. 12 mm long, 6—7 mm wide. *Raceme* cylindric, 15—30 cm long (generally c. 20 cm), 5—6 cm diam., very densely multi-flowered, bright yellow, the sessile flowers half-filled with crystal-clear nectar. *Bracts* scarious brownish cream, ovate-acuminate, 10—12 mm long, 7 mm wide, with 3—5 brownish nerves. *Pedicels* none. *Perianth* campanulate, 15—18 mm long, 4—5 mm diam. at the base, up to 15 mm diam. at the open mouth; *outer segments* free, translucent-white, yellow or somewhat orange at the apex inside, with 3 yellow-green nerves (sometimes brownish or salmon-red) confluent towards the apex; the lower segment straight, the two lateral with the apex slightly curved upwards; *inner segments* broader and thinner than the outer with the more obtuse apex sometimes shortly and sharply revolute, pale translucent-yellow with the 3 greenish-yellow, confluent nerves raised and thickened into a ribbed keel. *Filaments* filiform flattened, orange-yellow becoming pale greenish-yellow at the apex, the

3 inner narrower and lengthening before the 3 outer, straight, more or less evenly distributed around the mouth of the perianth. *Anthers* bright orange, in turn exserted 7—10 mm. *Style* brownish-orange at the base to yellow at the apex; *stigma* at length exserted 10—13 mm. *Ovary* sessile, brownish-orange, oblong-ellipsoid, somewhat truncate at the base, c. 5 mm × 3 mm. *Capsule* sessile, with the withered remains of the flower firmly attached to its truncate base, oblong-ellipsoid, up to 15 mm long, 7·5 mm diam., 3·5—4 mm diam. at the base, brown, not at all green at any stage. *Seeds* generally irregularly trigonous, occasionally tetragonous, very rarely pentagonous, c. 3·25—4·25 mm long, blackish brown, flecked with minute lenticular pustules, with translucent membraneous whitish margins on the angles.

## Acknowledgements

The author is much indebted to:

Mr. E. J. Bullock, for conducting me to the Mnene Mission locality, for his assistance on the excursion when *A. tauri* was located on Igar Mtn. and on many other botanising trips together and for plants and information regarding them, from many parts of Rhodesia.

Mr. I. C. Cannell, for taking me to the hill "M'shunga Neburi" and for photographs and material of *A. tauri* from that locality.

Dr. L. E. Codd, Chief, Botanical Research Institute, Pretoria, for the facilities of the herbarium and much other assistance.

Mr. R. B. Drummond, Chief Botanist, Government Herbarium, Salisbury, for the facilities of the herbarium.

The late Dr. G. W. Reynolds, who was my mentor in all matters pertaining to the genus *Aloe*, over many years, for photographs and many plants from tropical Africa and elsewhere, some of which have yet to be described.